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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,759	12/08/2003	Philip H. Mellor	130209.491	3454
500	7590	08/10/2005	EXAMINER	
SEED INTELLECTUAL PROPERTY LAW GROUP PLLC			ELKASSABGI, HEB A	
701 FIFTH AVE			ART UNIT	
SUITE 6300			PAPER NUMBER	
SEATTLE, WA 98104-7092			2834	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

51

<b>Office Action Summary</b>	<b>Application No.</b> 10/730,759	<b>Applicant(s)</b> MELLOR ET AL.	
	<b>Examiner</b> Heba Elkassabgi	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12/08/03, 07/19/05.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21, 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>07/13/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 22-25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected claims, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 07/19/05.

### ***Priority***

1. No domestic or foreign priority is claimed.

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 07/13/05 has been considered by the Examiner. The submission is in compliance with the provisions of 37 CFR 1.97.

### ***Specification***

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the

Art Unit: 2834

patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

### ***Drawings***

1. The drawings are objected to by the Draftsman, please see the attached draftsman copy.

2. The drawings are objected to because in figure #1, reference number #14 is indicated as the rotor shaft, however the figure as one skilled in the art would understand is referring to the poles of a stator. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is

being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. (US Patent 6794784).

Takahashi et al. discloses in figures 1-5 a rotor core (4) mounted for rotation with respect to the stator (1). The rotor core (4) having a number of magnet slots (18) and at least one non-magnetic structure (wedge 15) formed at a rotor core internal location

Art Unit: 2834

proximate to an expected pole location of a magnet (6) emplaced in the magnet slot (embedding hole 5). In regards to claim 2, each of the magnets slots (5) have a portion having a shape complimentary to a shape of at least a portion of the magnet (6). In regards to claim 3, the portion of the magnet slot (5) having a complimentary shape elongated. In regards to claim 4, at least one non-magnetic structure (air) is formed at a rotor core (4) internal location proximate to an expected pole location of a magnet (6) emplaced in the magnet slot (5) having an end of the magnet slot (5) abutting at least one non-magnetic region (see figure 7) having a width in excess of a width of the magnet slot (see figure 7) where at least a portion of the magnetic slot (5) is substantially magnet-shaped. In regards to claim 5, at least one non-magnetic region (see figure 7) having a width in excess of a width of the magnet slot (5) being a substantially bulbous region (see figure 7). In regards to claim 6, at least one notch (see figure 1) disposed substantially along a side of the respective ones of the magnet slots (5). In regards to claim 7, a filler (air, or the wedge 15) forming at least a part of at least one non-magnetic structure (see figure 5). In regards to claim 8, the filler being at least air. In regards to claim 9, a number of permanent magnets (6) having each permanent magnet (6) disposed within a respective one of the magnet slots (5). In regards to claim 10, a filler (wedge, 15) disposed within the magnet slots (5). In regards to claim 11, a number of non-magnetic wedges (15), each non-magnetic wedge (15) disposed adjacent to a respective one of the respective one of the permanent magnets (6) to establish a movement resistant friction fit between the permanent magnet (6) and the magnet slot (5).

2. Claims 12-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. (US Patent 6794784).

Takahashi et al. discloses in figures 1-5 a rotor (4) mounted for rotation with respect to the stator (1). The rotor (4) having a number of magnet slots (5), each slot (5) having an opposed end portion and a central portion disposed between the end portions, the central portion of each magnet slot (5) shaped to complimentary receive a magnet (6) and a number of magnets (6) complimentary received in the central portions of the magnet slots (5) of the rotor (4). In regards to claim 13, a filler (air or wedge 15) received in the end portions of the magnet slots (5). In regards to claim 14, the filler being selected of a group of at least air (see figure 1 or 5). In regards to claim 15, a load absorbing material (wedge 15) filling at least a portion of each of the end portions of the magnet slots (5). In regards to claim 16, the end portions (see figure 7) having magnet slots (5) with a width greater than a width of the central portion of the magnet slots (5). In regards to claim 17, the end portions the magnet slots (5) are substantially bulbous-shaped (see figures 1). In regards to claim 18, a rotating rotor (4) having at least one load absorbing structure (air or wedge 15) interposed between a magnet slot (5) and a rotor core material. In regards to claim 19, at least one load absorbing structure interposed between a magnet slot (5) and a rotor material being of at least air (see figures 1 and 5). In regards to claim 20, at least one load absorbing structure (air) has a bulbous portion (see figure 1). In regards to claim 21, the magnet slot (5) formed contiguous with at least one load absorbing structure (air).

Art Unit: 2834

3. Claim 26 is rejected under 35 U.S.C. 102(b) as being anticipated by Lloyd (US Patent 4939398).

Lloyd discloses in figures 2-5 the lamination layer (19) configured to be axially stacked in a series of lamination layers to form a rotor core (31) of an electric machine. The lamination layer (19) forming at least a part of at least one internal slot (33), each internal slot (33) having an elongate portion and at least one expanded end portion (the end portion in figure 3-4 has a larger portion than the central portion, thus it is an expanded portion) disposed at one end of the elongate portion and a permanent magnet (21) disposed within each internal slot.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is 571-272-2023. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Heba Elkassabgi

United States Patent and Trademark Office  
Patent Examiner -AU 2834  
Class 310- Electrical Generator/Motor Structure



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